

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"6211485".pn.	USPAT	OR	OFF	2006/10/03 06:26
L2	28	("4500389"   "4504727"   "4544442"   "4606747"   "4642160"   "4644130"   "4764485"   "4789770"   "5010232"   "5087396"   "5108785"   "5173442"   "5367143"   "5378869"   "5844200"   "6107003").PN. OR ("6211485").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/10/03 06:26
L3	15	("5021120"   "5403672"   "5578696"   "5759416").PN. OR ("6107003").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/10/03 06:27
L4	111	("4030190"   "4211603"   "4566186").PN. OR ("4642160").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/10/03 06:29
L5	86	("3953556"   "4348253"   "4445978"   "4473737"   "4482516"   "4547836"   "4566186"   "4595428"   "4617730"   "4642160"   "4647476"   "4705762"   "4720308"   "4736521"   "4788766"   "4901136"   "4913656"   "4943032"   "4959119"   "4985296"   "5009607"   "5019997"   "5048166"   "5064583"   "5071359"   "5072075"   "5108785"   "5144742"   "5155655"   "5161086"   "5171964"   "5224265"   "5245751"   "5251097"   "5258094"   "5261153"   "5292574"   "5293025"   "5293626"   "5322593"   "5323520"   "5331203"   "5337466"   "5347258"   "5347712"   "5355397"   "5377404"   "5378313"   "5378318"   "5391516"   "5401687"   "5428803"   "5433000"   "5442475"   "5446311"   "5459634"   "5466892"   "5478972"   "5483421"   "5509553"   "5524339"   "5534666"   "5541367"   "5541731"   "5608192"   "5633479"   "5736679").PN. OR ("6021564").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/10/03 06:30
L6	913	29/852.ccls.	USPAT	OR	OFF	2006/10/03 07:36

## EAST Search History

L7	20	("20030098631"   "6060818"   "6377137"   "6384697"   "6399425"   "6424237"   "6441702"   "6456173"   "6469597"   "6472954"   "6480074"   "6483229"   "6486751"   "6542054"   "6566979"   "6617249"   "6657517"   "6662419"   "6711792"   "6812068").PN. OR ("7114252").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/10/03 07:56
L8	19	(negative adj coefficient adj thermal adj expansion) same dielectric	USPAT	OR	ON	2006/10/03 07:58
L9	5	(negative adj coefficient adj thermal adj expansion) same polyethylene	USPAT	OR	ON	2006/10/03 07:58
L12	1197	"29"/\$.ccls. and (((silicon adj oxide) or (silicon adj nitride) or polyimide or (silicon adj dioxide)) same dielectric)	USPAT	OR	ON	2006/10/03 08:30
L13	331	zirconium with tungstate	USPAT	OR	ON	2006/10/03 08:46
L14	25	(zirconium with tungstate) same dielectric	USPAT	OR	ON	2006/10/03 08:46
S1	1	"5613861".pn. and (forc\$ or press\$)	USPAT	OR	ON	2004/08/09 10:08
S2	1	"5613861".pn. and (permanent\$ or temporar\$)	USPAT	OR	ON	2004/08/09 10:41
S3	1	"5613861".pn. and solder\$	USPAT	OR	ON	2004/08/09 10:41
S4	180	chang-rick-kiltae.xa. or chang-rick-k.xa.	USPAT	OR	OFF	2006/07/25 10:19
S5	5	(29/852,830,846,847.ccls. or 427/97,98,96,99 or 438/688,644, 637,636,675,648,650,660.ccls. or 252/250.ccls. or 204/192.17.ccls.) and (negative with thermal) and (positive with thermal)	USPAT	OR	OFF	2004/08/04 12:31
S6	0	(29/852,830,846,847.ccls. or 427/97,98,96,99 or 438/688,644, 637,636,675,648,650,660.ccls. or 252/250.ccls. or 204/192.17.ccls.) and ((silicon adj oxide) or (silicon adj dioxide) or (silicon adj nitride) or polyimide) and (zirconium adj tungstate)	USPAT	OR	OFF	2002/09/17 06:01
S7	112	(29/852,830,846,847.ccls. or 427/97,98,96,99 or 438/688,644, 637,636,675,648,650,660.ccls. or 252/250.ccls. or 204/192.17.ccls.) and ((silicon adj oxide) or (silicon adj dioxide) or (silicon adj nitride) or polyimide) and (zirconium)	USPAT	OR	OFF	2006/10/03 07:36

## EAST Search History

S8	52	zirconium adj tungstate	USPAT	OR	OFF	2006/10/02 12:57
S9	1	("6164993").PN.	USPAT; USOCR	OR	OFF	2002/09/16 11:24
S10	14	((silicon adj oxide) or (silicon adj dioxide) or (silicon adj nitride) or polyimide) and (zirconium adj tungstate)	USPAT	OR	OFF	2002/09/17 05:49
S11	5	("4950173"   "5497545"   "5607313"   "5641291"   "5919720").PN.	USPAT	OR	OFF	2002/09/16 11:25
S12	8	polyimide and (zirconium adj tungstate)	USPAT	OR	OFF	2002/09/17 05:51
S13	0	(29/852,830,846,847.ccls. or 427/97,98,96,99 or 438/688,644, 637,636,675,648,650,660.ccls. or 252/250.ccls. or 204/192.17.ccls. or 439/161,932,83.ccls. or 174/262, 260,265.ccls. or 361/764,772,773. ccls.) and (negative adj thermal coefficient) and (positive adj thermal adj coefficient)	USPAT	OR	OFF	2002/09/17 06:02
S14	0	(29/852,830,846,847.ccls. or 427/97,98,96,99 or 438/688,644, 637,636,675,648,650,660.ccls. or 252/250.ccls. or 204/192.17.ccls. or 439/161,932,83.ccls. or 174/262, 260,265.ccls. or 361/764,772,773. ccls.) and (negative adj thermal adj coefficient) and (positive adj thermal adj coefficient)	USPAT	OR	OFF	2002/09/17 06:11
S15	3	(29/852,830,846,847.ccls. or 427/97,98,96,99 or 438/688,644, 637,636,675,648,650,660.ccls. or 252/250.ccls. or 204/192.17.ccls. or 439/161,932,83.ccls. or 174/262, 260,265.ccls. or 361/764,772,773. ccls.) and (negative adj coefficient adj thermal adj expansion) and (positive adj coefficient adj thermal adj expansion)	USPAT	OR	OFF	2002/09/17 06:13
S16	60	(negative adj coefficient adj thermal adj expansion) and (positive adj coefficient adj thermal adj expansion)	USPAT	OR	OFF	2002/09/17 07:14

## EAST Search History

S17	17	("3526565"   "3686048"   "4282011"   "4318954"   "4368234"   "4414264"   "4513055"   "4522667"   "4536438"   "4569692"   "4574107"   "4576857"   "4582748"   "4590539"   "4591659"   "4609586"   "4623577").PN.	USPAT	OR	OFF	2002/09/17 06:16
S18	1	("4513055").PN.	USPAT; USOCR	OR	OFF	2002/09/17 07:11
S19	3	negative adj positive adj coefficient adj thermal adj expansion	USPAT	OR	OFF	2004/08/04 12:32
S20	10	positive adj negative adj coefficient adj thermal adj expansion	USPAT	OR	OFF	2006/10/03 07:56
S21	160	29/837,741.ccls. and heat\$	USPAT	OR	OFF	2002/09/17 08:39
S22	19	"4814945".URPN.	USPAT	OR	OFF	2004/08/04 09:28
S23	6	("5194713"   "5220135"   "5314742"   "5319159"   "5378869"   "6090330").PN.	USPAT	OR	OFF	2004/08/04 09:33
S24	25	"4513055".URPN.	USPAT	OR	OFF	2004/08/04 09:34
S25	7	"4875282".URPN.	USPAT	OR	OFF	2004/08/04 09:36
S26	0	"5285015".URPN.	USPAT	OR	OFF	2004/08/04 09:37
S27	10	("3350498"   "3704164"   "4067945"   "4103102"   "4604160"   "4651417"   "4673904"   "4769270"   "4875282"   "4912020").PN.	USPAT	OR	OFF	2004/08/04 09:37
S28	112	positive same negative same cte	USPAT	OR	ON	2004/08/04 09:40
S29	13	("4496793"   "4654248"   "4814945"   "4921054"   "4943468"   "5376326"   "5574630"   "5602491"   "5830374"   "5900675"   "5919329"   "6011691"   "6136733").PN.	USPAT	OR	OFF	2004/08/04 09:41
S30	7	("1609222"   "2217423"   "3113435"   "3666578"   "3958317"   "4170819"   "4201616").PN.	USPAT	OR	OFF	2004/08/04 09:44
S31	41	"4496793".URPN.	USPAT	OR	OFF	2004/08/04 09:44
S32	2	(29/852,830,846,847.ccls. or 427/97,98,96,99 or 438/688,644, 637,636,675,648,650,660.ccls. or 252/250.ccls. or 204/192.17.ccls.) and (negative same positive same cte)	USPAT	OR	ON	2004/08/04 12:42

## EAST Search History

S33	5	(29/852,830,846,847.ccls. or 427/97,98,96,99 or 438/688,644, 637,636,675,648,650,660.ccls. or 252/250.ccls. or 204/192.17.ccls.) and (negative same positive same (cte or (coefficient adj thermal adj expansion)))	USPAT	OR	ON	2004/08/04 12:39
S34	24	"4521262".URPN.	USPAT	OR	OFF	2004/08/04 12:33
S35	22	"4689110".URPN.	USPAT	OR	OFF	2004/08/04 12:36
S36	0	29/852.ccls. and ((silicon adj oxide) or (silicon adj nitride) or polyimide) and (zirconium adj tungstate)	USPAT	OR	ON	2004/08/04 12:42
S37	0	(29/852,830,846,847.ccls. or 427/97,98,96,99 or 438/688,644, 637,636,675,648,650,660.ccls. or 252/250.ccls. or 204/192.17.ccls.) and ((silicon adj oxide) or (silicon adj nitride) or polyimide) and (zirconium adj tungstate)	USPAT	OR	ON	2004/08/04 12:43
S38	17	((silicon adj oxide) or (silicon adj nitride) or polyimide) and (zirconium adj tungstate)	USPAT	OR	ON	2006/10/03 08:28
S39	5	("4950173"   "5497545"   "5607313"   "5641291"   "5919720").PN.	USPAT	OR	OFF	2004/08/04 12:44
S40	11	("2990533"   "3103547"   "3201851"   "3281923"   "3445929"   "3446908"   "3926360"   "4727633"   "4730086"   "4881906"   "5024372").PN.	USPAT	OR	OFF	2004/08/04 12:45
S41	10	("4950173"   "5123849"   "5387121"   "5433778"   "5466169"   "5497545"   "5514360"   "5607313"   "5641291"   "5919720").PN.	USPAT	OR	OFF	2004/08/04 12:47
S42	5	("4047132"   "4551746"   "4560962"   "4591659"   "4689110").PN.	USPAT	OR	OFF	2004/08/04 13:11
S43	33	"4812792".URPN.	USPAT	OR	OFF	2004/08/04 13:11
S44	9	(silicon adj dioxide) same ((negative or positive) with ((coefficient adj thermal adj expansion) or cte))	USPAT	OR	ON	2005/08/22 09:50
S45	734	((negative or positive) same ((coefficient adj thermal adj expansion) or cte))	USPAT	OR	ON	2005/08/16 14:12

## EAST Search History

S54	21	((silicon adj dioxide) or (silicon adj nitride) or polyimide) and (zirconium adj tungstate)	USPAT	OR	ON	2005/08/16 14:03
S55	10	("4950173"   "5497545"   "5607313"   "5641291"   "5919720").PN. OR ("6264486").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/08/16 14:07
S56	10	("4950173"   "5123849"   "5387121"   "5433778"   "5466169"   "5497545"   "5514360"   "5607313"   "5641291"   "5919720").PN. OR ("6164993").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/08/16 14:11
S57	47	((negative or positive) same ((coefficient adj thermal adj expansion) or cte)) same polyimide	USPAT	OR	ON	2005/08/16 14:12
S58	38	("2990533"   "3103547"   "3201851"   "3281923"   "3445929"   "3446908"   "3926360"   "4727633"   "4730086"   "4881906"   "5024372").PN. OR ("5497545").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/08/16 14:22
S59	43	("3952231"   "4054939"   "4294877"   "4318954"   "4327126"   "4456712"   "4464704"   "4472762"   "4526835").PN. OR ("4591659").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/08/18 07:08
S60	30	("3953566"   "4482516"   "4591659"   "4654248"   "4705762"   "4866502"   "4890194"   "4943844"   "4985296"   "5103292"   "5290624"   "5339217"   "5455385"   "5483421"   "5506756"   "5532513"   "5545473"   "5572405"   "5574630"   "5768108"   "5778623"   "5900312"   "6014317").PN. OR ("6248959").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/08/18 07:18
S61	1	((("3953566"   "4482516"   "4591659"   "4654248"   "4705762"   "4866502"   "4890194"   "4943844"   "4985296"   "5103292"   "5290624"   "5339217"   "5455385"   "5483421"   "5506756"   "5532513"   "5545473"   "5572405"   "5574630"   "5768108"   "5778623"   "5900312"   "6014317").PN. OR ("6248959").URPN.) and ((negative or positive) same ((coefficient adj thermal adj expansion) or cte))	US-PGPUB; USPAT; USOCR	OR	OFF	2005/08/18 07:18

## EAST Search History

S62	10	("4950173"   "5497545"   "5607313"   "5641291"   "5919720").PN. OR ("6264486").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/08/18 07:43
S63	16	(US "4318954" A US "4513055" A US "4522667" A US "4569692" A US "4590539" A US "4591659" A US "4609586" A US "4814945" A US "4875282" A US "5369551" A US "5497545" A US "5919329" A US "6127025" A US "6210537" B1 US "6365844" B2 US "6436803" B1).pn.	USPAT	OR	OFF	2005/08/18 07:47
S64	4	(US "4318954" A US "4513055" A US "4522667" A US "4569692" A US "4590539" A US "4591659" A US "4609586" A US "4814945" A US "4875282" A US "5369551" A US "5497545" A US "5919329" A US "6127025" A US "6210537" B1 US "6365844" B2 US "6436803" B1).pn. and (positive and negative) same ((coefficient adj thermal adj expansion) or cte)	USPAT	OR	OFF	2005/08/18 07:54
S65	39	("3526565"   "3686048"   "4282011"   "4318954"   "4368234"   "4414264"   "4513055"   "4522667"   "4536438"   "4569692"   "4574107"   "4576857"   "4582748"   "4590539"   "4591659"   "4609586"   "4623577").PN. OR ("4814945").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/08/18 07:49
S67	1952	(lower and higher) same ((coefficient adj thermal adj expansion) or cte)	USPAT	OR	ON	2005/08/18 07:55
S68	1	("6,274,932").PN.	USPAT	OR	OFF	2005/08/18 07:57
S69	1	(positive and negative) same ((coefficient adj thermal adj expansion) or cte) and kevlar and fiberglas	USPAT	OR	ON	2005/08/18 08:21
S70	1031	copper same ((positive adj coefficient) or cte)	USPAT	OR	ON	2005/08/18 09:08
S71	18	29/852.ccls. and ((chang-r\$.xa.))	USPAT	OR	ON	2005/08/18 09:04
S72	18	("4642160"   "4673773"   "4710854"   "4806188"   "4830691"   "4882454"   "4902610"   "4904968"   "5010641").PN. OR ("6378201").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/08/18 08:30
S73	2	(zirconium adj tungstate) same single same crystal	USPAT	OR	ON	2005/08/18 08:50

## EAST Search History

S74	1	(zirconium adj tungstate) same (single-crystal)	USPAT	OR	ON	2005/08/18 08:50
S75	1	(zirconium same tungstate) same (single-crystal)	USPAT	OR	ON	2005/08/18 08:51
S76	1	zirconium same tungstate same (single-crystal)	USPAT	OR	ON	2005/08/18 08:51
S77	5	zirconium same tungstate same single same crystal	USPAT	OR	ON	2005/08/18 09:01
S78	4153	ceramic same ((epoxy-glass) or (epoxy with glass))	USPAT	OR	ON	2005/08/18 09:01
S79	4	29/852.ccls. and ((chang-r\$.xa.) and ceramic	USPAT	OR	ON	2005/08/18 09:04
S80	0	copper same ((positive adj coefficient adj2 thermal))	USPAT	OR	ON	2005/08/18 09:08
S81	11	copper same ((positive adj coefficient adj2 thermal))	USPAT	OR	ON	2005/08/18 09:13
S82	29	epoxy same ((negative adj coefficient adj2 thermal))	USPAT	OR	ON	2005/08/18 09:12
S83	14	epoxy same ((positive adj coefficient adj2 thermal))	USPAT	OR	ON	2005/08/18 09:12
S84	16	copper same ((negative adj coefficient adj2 thermal))	USPAT	OR	ON	2006/07/25 07:58
S85	4	(silicon adj oxide) same ((negative or positive) with ((coefficient adj thermal adj expansion) or cte))	USPAT	OR	ON	2005/08/22 09:30
S86	5	(silicon adj nitride) same ((negative or positive) with ((coefficient adj thermal adj expansion) or cte))	USPAT	OR	ON	2005/08/22 09:30
S87	16	(zirconium adj tungstate) same (negative with ((coefficient adj thermal adj expansion) or cte))	USPAT	OR	ON	2006/10/02 12:54
S88	1	("4642160").PN.	USPAT	OR	OFF	2006/02/22 07:00
S89	1121	copper same ((negative adj coefficient adj2 thermal) or cte)	USPAT	OR	ON	2006/10/02 14:02
S90	1	"6,164,993".pn.	USPAT	OR	ON	2006/07/25 08:13
S91	10	("4950173"   "5123849"   "5387121"   "5433778"   "5466169"   "5497545"   "5514360"   "5607313"   "5641291"   "5919720").PN. OR ("6164993").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/25 08:15
S92	4	gold same ((negative adj coefficient adj2 thermal) or (negative with cte))	USPAT	OR	ON	2006/07/25 08:19

## EAST Search History

S93	145	((negative adj coefficient adj2 thermal) same (positive adj coefficient adj2 thermal)) or ((negative with cte) same (positive with cte)))	USPAT	OR	ON	2006/07/25 09:46
S94	10	("4950173"   "5497545"   "5607313"   "5641291"   "5919720").PN. OR ("6264486").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/25 08:52
S95	1	("5,426,405").PN.	USPAT	OR	OFF	2006/07/25 09:06
S96	896	29/852.ccls.	USPAT	OR	OFF	2006/07/25 10:45
S97	11	("4258468"   "4717639"   "5063280"   "5073687"   "5121298"   "5648125"   "6117706").PN. OR ("6280641").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/25 09:45
S98	1	("6132676").PN.	USPAT	OR	OFF	2006/07/25 09:45
S99	3	((positive adj coefficient adj2 thermal) or (positive with cte)) same ((silicon adj oxide) or (silicon adj dioxide) or (silicon adj nitride))	USPAT	OR	ON	2006/07/25 09:51
S100	1267	((coefficient adj2 thermal) or cte) same ((silicon adj oxide) or (silicon adj dioxide) or (silicon adj nitride))	USPAT	OR	ON	2006/07/25 09:51
S101	1	("4642160").PN.	USPAT	OR	OFF	2006/07/25 10:18
S102	396	(chang-r\$.xa. or chang-r\$.xp.) and "29"/\$.ccls.	USPAT	OR	OFF	2006/07/25 10:20
S103	48	("5037780"   "5070604"   "5348214"   "5410807"   "5478007"   "5518964"   "5615824").PN. OR ("5874780").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/25 10:22
S104	34	29/852.ccls. and concave	USPAT	OR	ON	2006/07/25 10:45
S105	1	("5864478").PN.	USPAT	OR	OFF	2006/07/27 07:27
S106	1	("6,490,160").PN.	USPAT	OR	OFF	2006/07/27 07:27
S107	30	("4992925"   "5117330"   "5289364"   "5359495"   "5497289"   "5548484"   "5626480"   "5627413").PN. OR ("5864478").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/27 07:27
S108	30	("4992925"   "5117330"   "5289364"   "5359495"   "5497289"   "5548484"   "5626480"   "5627413").PN. OR ("5864478").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/27 08:18

## EAST Search History

S10 9	2	(("5641113") or ("6260264")).PN.	USPAT	OR	OFF	2006/07/27 08:59
S11 0	1	("5,426,405").PN.	USPAT	OR	OFF	2006/07/27 09:22
S11 1	1	("6,588,094").PN.	USPAT	OR	OFF	2006/07/27 09:22
S11 2	14	(zirconium adj tungstate) and polyimide	USPAT	OR	ON	2006/10/02 12:55
S11 3	22	(zirconium adj tungstate) and (silicon with (oxide or dioxide or nitride))	USPAT	OR	ON	2006/10/02 12:56
S11 4	249	zirconium with tungstate	USPAT	OR	OFF	2006/10/03 08:42
S11 5	10	("4950173"   "5123849"   "5387121"   "5433778"   "5466169"   "5497545"   "5514360"   "5607313"   "5641291"   "5919720").PN. OR ("6164993").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/10/02 13:03
S11 6	111	("4030190"   "4211603"   "4566186").PN. OR ("4642160").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/10/02 13:50
S11 7	16	copper same ((negative adj coefficient adj2 thermal))	USPAT	OR	ON	2006/10/02 13:59
S11 8	11	copper same ((positive adj coefficient adj2 thermal))	USPAT	OR	ON	2006/10/02 14:03